nformation Update

Guidelines for Estimating Pasture Cost of Production

Date: January, 2001

Forage crops comprise approximately 36% of the agricultural land base in Manitoba. With the change in agricultural markets, there is a greater interest in the use of marginal cropland for forage production and the harvesting of that forage by grazing livestock.

The technology of grassland management has changed in recent years with the adoption of rotational grazing systems, use of improved pasture forage species and livestock marketing systems that can reduce risk to the grass manager.

Stocking rates are a critical aspect of any grazing system. This budget takes into account options to consider when calculating the stocking rate or Animal Unit Months (AUM) for your soil type and climatic conditions.

The figures in this example are a guideline for you to use when determining your own costs. The production costs have not been determined by producer survey but are considered a good representative of typical Manitoba costs that would be incurred when using recommended grazing practices.

Pasture costs and returns must be carefully calculated so that a comparison is possible with other crop options for the land base. This Pasture Cost Guideline should provide an outline for producers to determine their costs of a grazing system.

Pasture Cost of Production Summary

A. Operating Costs	$/Acre	Season $/head	Daily $/head	Your Cost
1.01 Land Development	$3.40	$4.86	$0.03	
1.02 Fertilizer	$12.31	$17.59	$0.12	
1.03 Herbicide	$2.40	$3.43	$0.02	
1.04 Fuel & Repairs	$4.38	$6.26	$0.04	
1.05 Land Taxes	$4.00	$5.71	$0.04	
1.06 Miscellaneous	$2.00	$2.86	$0.02	
Sub-total Operating Cost	$28.49	$40.71	$0.28	
1.07 Interest on Operating	$1.21	$1.73	$0.01	
Total Operating Costs	**$29.70**	**$42.43**	**$0.29**	
B. Fixed Costs				
2.0 Investment				
2.01 Land	$15.00	$21.43	$0.15	
2.02 Facilities	$1.80	$2.57	$0.02	
2.03 Machinery	$0.00	$0.00	$0.00	
3.0 Depreciation				
3.01 Facilities	$3.59	$5.13	$0.04	
3.02 Machinery	$0.00	$0.00	$0.00	
Total Fixed Costs	**$20.39**	**$29.13**	**$0.21**	
Total Operating and Fixed	**$50.09**	**$71.56**	**$0.50**	
C. Labour	**$0.00**	**$0.00**	**$0.00**	
Total Cost of Production	**$50.09**	**$71.56**	**$0.50**	

Pasture Cost of Production Assumptions

Land

Total Acres	**160**	acres
Market Value (excluding fence)	**$48,000**	
Market Value per acre	**$300.00**	$/acre
Grazing period		
Days	**144**	days
Months	**4.8**	months

Animal Unit Month (AUM) Available per Acre

Vegetative Associations			Soil Groups		
			Light	Medium	Heavy
			2	3	4
Bush	Woodland	1	0.2	0.4	0.5
	Open woodland	2	0.4	0.6	0.8
	Harvested woodland	3	0.6	0.8	0.9
	Boreal forest	4	0.0	0.0	0.0
Meadow	Upland grass	5	0.8	1.2	1.0
	Transitional grassland	6	1.2	1.2	1.4
	Lowland meadow	7	1.6	1.8	1.8
Improved	Hay regrowth	8	0.5	0.8	1.0
	Poor tame forage	9	1.4	1.4	1.6
	Fair tame forage	10	2.0	2.8	3.0
	Good tame forage	11	3.5	4.0	5.0
Annual	Annual crop land	12	0.0	3.0	3.0
	Crop stubble	13	0.0	0.5	0.5
	Fall seeded cereal	14	0.0	1.6	1.6

Source Manitoba Crown Lands

Estimated Carrying Capacity: Pick the soil group and vegetative association (from the table above) that most closely represents your land.

Soil Group (2-4) **3** Veg. Assoc. (1-14) **11**

Estimated average weight on pasture **1188** lbs

	Carrying Capacity
Number of head pastured/season	112
(see detailed calculations on page 10)	
Number of head pastured/acre	0.70
Pounds liveweight per acre	832
Total pounds on pasture	133,056

Pasture Cost of Production Worksheet

A. Operating Costs				Your Cost
1.01 Land Development				
Seed Costs		12.0	alfalfa grass mix lbs/acre	
	x	$2.50	$/lb	
	+	$4.00	$/acre custom seeding	
	÷	10	years of production	
	=	$3.40	/acre	
Land Preparation		$0	breaking	
	+	$0	clearing	
	÷	40	years of production	
	÷	160	acres	
	=	$0.00	/acre	
Total	**=**	**$3.40**	**/acre**	
1.02 Fertilizer				
Nitrogen				
seeding		20.0	lbs nitrogen seeding year	
	x	$0.27	cost/lb	
	÷	10	years of production	
	=	$0.54	/acre	
cropping		30.0	lbs nitrogen cropping years	
	x	$0.27	cost/lb	
	x	80	acres annually	
	÷	160	total acres	
	=	$4.05	/acre	
Total	=	$4.59	/acre	

Phosphate seeding		35	lbs phosphate seeding year	
	x	$0.28	cost/lb	
	÷	10	years of production	
	=	$0.98	/acre	
cropping		30	lbs phosphate cropping years	
	x	$0.28	cost/lb	
	x	80	acres annually	
	÷	160	total acres	
	=	$4.20	/acre	
Total	=	$5.18	/acre	
Potash seeding		10	lbs potash seeding year	
	x	$0.14	cost/lb	
	÷	10	years of production	
	=	$0.14	/acre	
cropping		0	lbs potash cropping years	
	x	$0.14	cost/lb	
	x	80	acres annually	
	÷	160	total acres	
	=	$0.00	/acre	
Total	=	$0.14	/acre	
Sulfur seeding		0	lbs sulfur seeding year	
	x	$0.23	cost/lb	
	÷	10	years of production	
	=	$0.00	/acre	

cropping			
		0	lbs sulfur cropping years
		$0.23	cost/lb
	x	80	acres annually
	+	160	total acres
	=	$0.00	/acre
Total	=	$0.00	/acre
Custom Application Cost			
Seeding		$4.00	$/acre custom cost
	÷	10	years of production
	=	$0.40	/acre
Cropping			
		$4.00	$/acre custom cost
	x	80	acres applied
	÷	160	total acres
	=	$2.00	/acre
Total	=	$2.40	/acre
Total		**$12.31**	**/acre**

1.03 Herbicide

Seeding		$14.00	$/acre (includes application)
	+	10	years of production
	=	$1.40	Cost/year
Pasture		$1.00	Spot spray
Total	**=**	**$2.40**	**/acre**

1.04 Maintenance & Repairs

		$500.00	machinery
	+	$200.00	fence
	÷	160	total acres
	=	**$4.38**	**/acre**

1.05 Land Taxes

=	**$4.00**	**/acre**	_____

1.06 Miscellaneous

=	**$2.00**	**/acre**	_____

1.07 Interest on operating costs

	$28.49	subtotal operating	_____
+	2	average	_____
x	8.5	% interest rate	_____
=	**$1.21**	**/acre**	_____

Capital Costs

Land	
160 acres @ $300/acre	$48,000
Facilities	
Handling facilities	$5,000
Fence Cost	$5,000
Water Development	$1,500
Total Facilities	$11,500
Total Investment	**$59,500**

B. Fixed Costs

2. Investment

2.01 Land

	$300.00	cost/acre
x	5.0	% investment rate
=	**$15.00**	**/acre**

2.02 Facilities

	$11,500	facilities investment
+	$0	salvage value
÷	2	average
÷	160	acres
x	5	% investment rate
=	**$1.80**	**/acre**

2.03 Machinery

	$0	machinery investment
+	$0	salvage value
÷	2	average
÷	160	acres
x	5.0	% investment rate
=	**$0.00**	**/acre**

Depreciation

3.01 Facilities

	$11,500	facilities investment
-	$0	salvage value
÷	20	useful life
÷	160	acres
=	**$3.59**	**/acre**

3.02 Machinery

	$0	machinery investment
-	$0	salvage value
÷	13	useful life
÷	160	acres
=	**$0.00**	**/acre**

C. Labour Cost

	0.0	hours/acre
x	$0.00	rate/hour
=	**$0.00**	**/acre**

For further information contact your local Agriculture and Food Office

Prepared by:

Peter Blawat	Farm Management Specialist
Bob Gwyer	Farm Management Specialist
Ian McCartney	Farm Management Specialist
Fraser Stewart	Forage and Grassland Specialist
Gil LaHaie	Crown Lands